



# APG-63(V)1 PROGRAM

## **FLICS**

**F<sup>3</sup>I (Form, Fit, Function & Interface) Lifetime Contractor Sustainment**

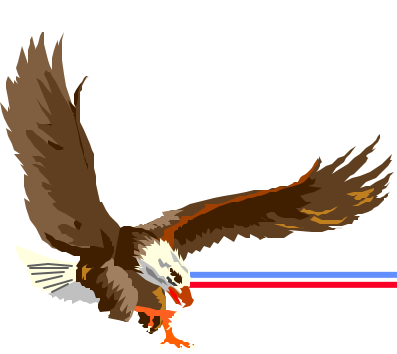
**Presented by: Sam Reid**  
**FLICS Program Manager**



# What Is FLICS ?

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- **F-15 Response to Flexible Sustainment**
  - **USAF APG-(63)V 1 Radar Repair Depot**
  - **Contract Award 12/22/98**
- **Two level approach to maintenance**
  - **Organic “O Level” - On Aircraft**
  - **Depot “D Level” - Original Equipment Manufacturer (OEM)**
- **Aircraft Failures are isolated using Built-in-Test (BIT) and Computerized Fault Reporting and Computerized Fault Isolation (CFR/CFI) system**
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- **Faulty Line Replaceable Unit (LRU) is replaced with a Serviceable Spare and returned to the OEM, Raytheon, for repair**



# Contractual Elements

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- **Guarantee 90% Radar Availability or Raytheon Must Provide Additional Spares at No Additional Cost.**
- **Implement F<sup>3</sup>I**
  - **Raytheon Has Systems Engineering Responsibility of APG-63(V)1Radar**
    - » **Configuration Control Below LRU Level**
    - » **Technology Insertion and Parts Obsolescence Management**
- **Maintain Current Build-to-Package**
  - **Offers government a Fall-Back position for Organic Support**

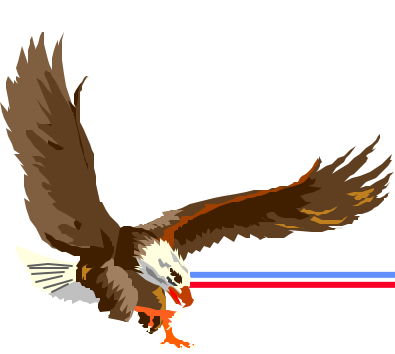


# Raytheon Responsibility

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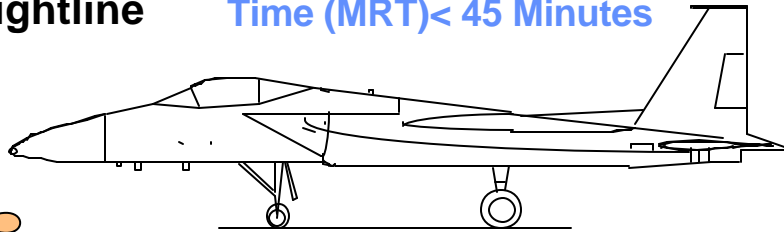
- **Repair LRU in 15 days CONUS and 20 days from overseas.**
- **Repair Shop Replaceable Unit (SRU) in 60 days from time removed from LRU.**
- **LRU & SRU spares levels are based on these turnaround times and the predicted failure rate.**

# USAF Responsibility - Ship Bad LRU in 24 Hours

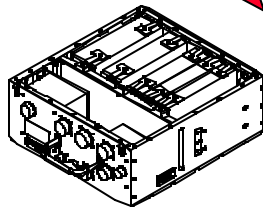


Base X Flightline

Actual On-Aircraft Mean Repair  
Time (MRT) < 45 Minutes

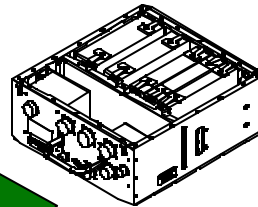


① Removal  
Defective  
LRU



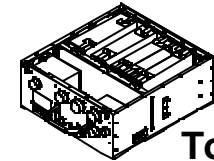
⑤

Install  
Good  
LRU

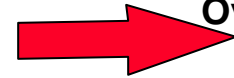


② Maintenance  
Technician  
Exchanges Bad  
LRU for Spare

BASE SUPPLY/  
TRANSPORTATION  
  
Shipping  
& Receiving



To Raytheon  
Overnight



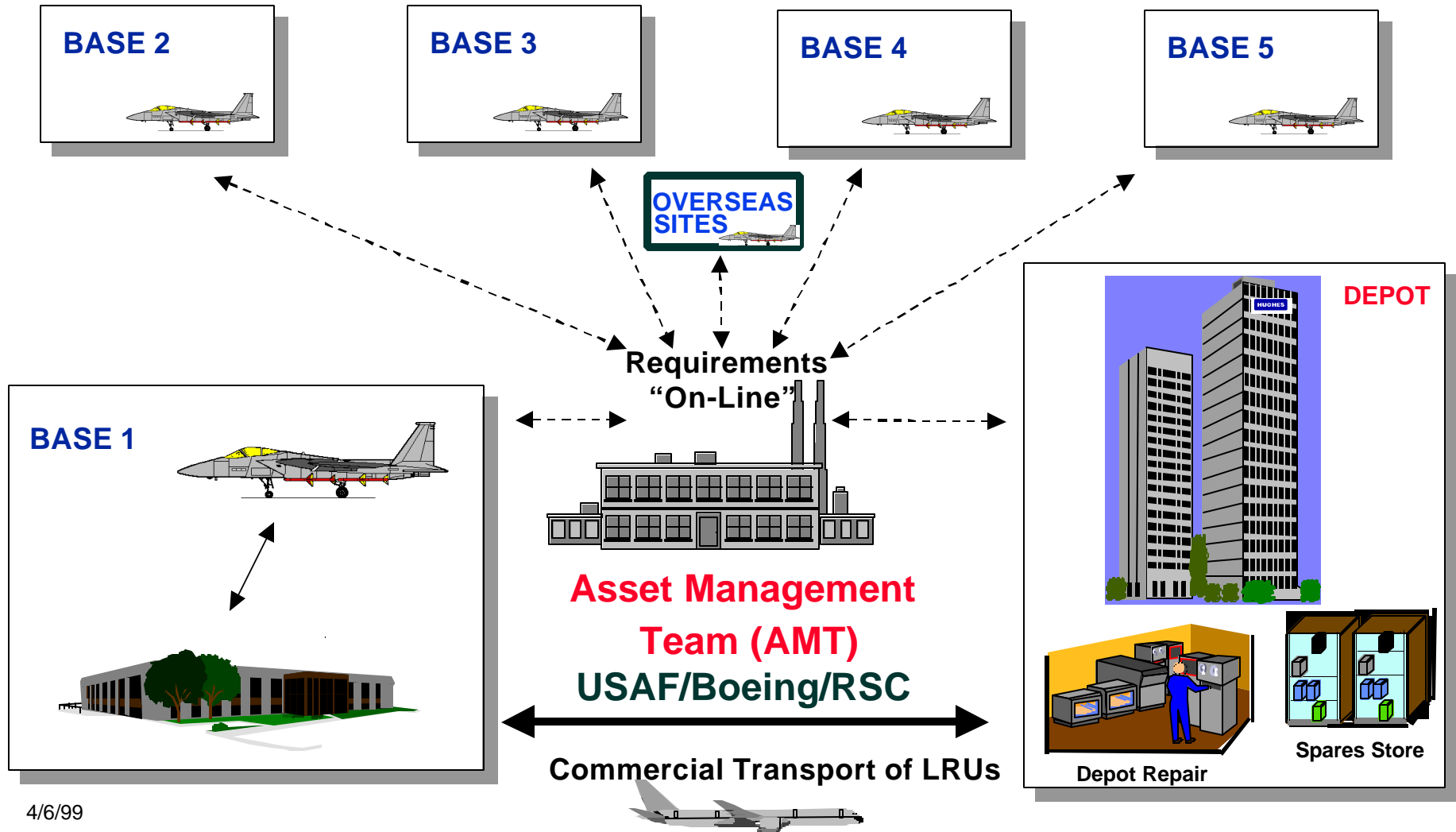
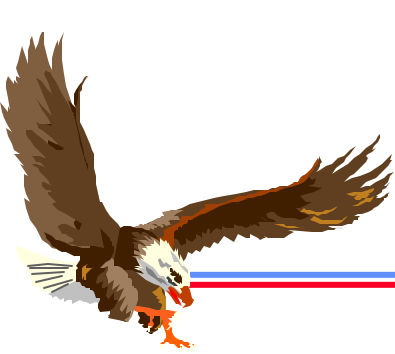
③ - Receives Bad LRU

④ - Issues Spare  
- Sends Bad LRU to  
Base Supply



Flight Line Support  
Section

# USAF/Boeing-Raytheon Asset Management IPT



# Raytheon Depot Repair Process



BAD LRU RETURNED  
FOR REPAIR



2 DAYS FROM ALASKA



BAD SRU



**EO4**  
**El Segundo, CA**



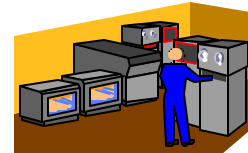
## ASSET MANAGEMENT

- PREPARE TASK ORDER PACKAGE
- TRACK REPAIR
- OBTAIN SHIPPING INSTRUCTIONS
- PROCESS GFP DOC.

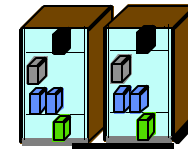


SHIPPING  
& RECEIVING

**LRU REPAIR**  
**7 DAYS AVERAGE**



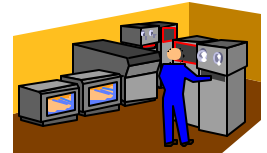
- CONFIRM FAILURE
- REPLACE BAD SRU
- LRU TEST
- CONFIRM FIX
- INSPECT



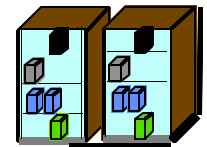
SRU SPARES

RDP - Andover, MA

ASC & Receiver, LVPS  
& Transmitter -  
Forest, MS



SRU REPAIR



SPARE PARTS  
(Initially Maintained  
in El Segundo  
Common Stores)

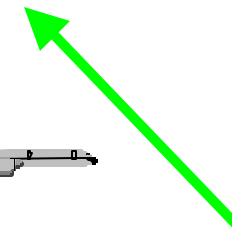
**SRU REPAIR**  
**60 DAYS**



2 DAYS TO ALASKA



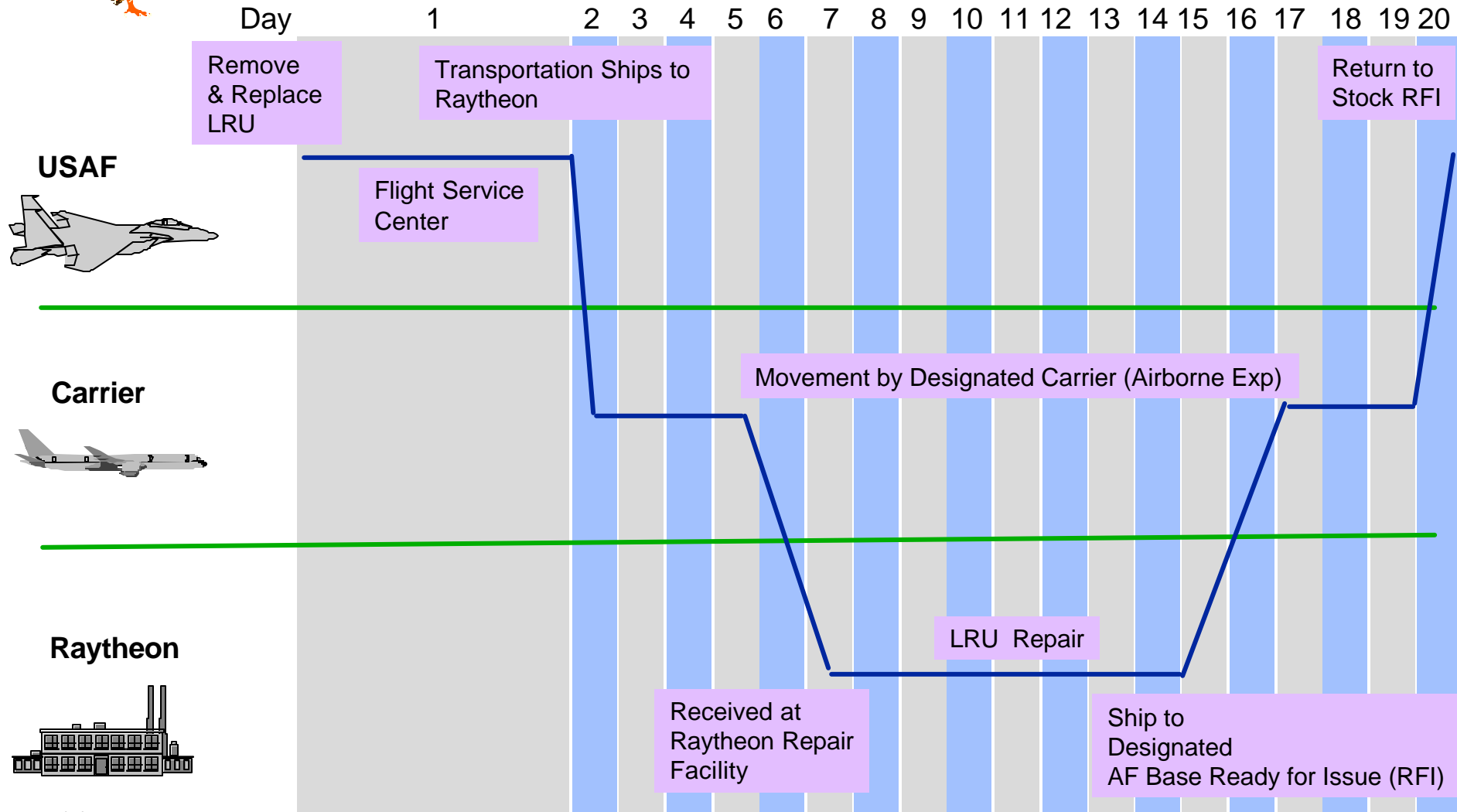
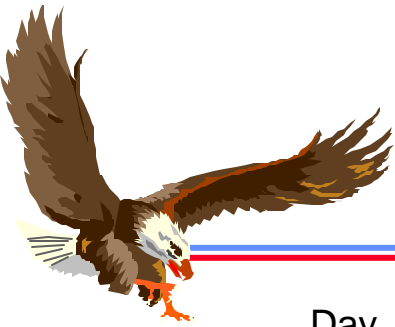
REPAIRED SRU



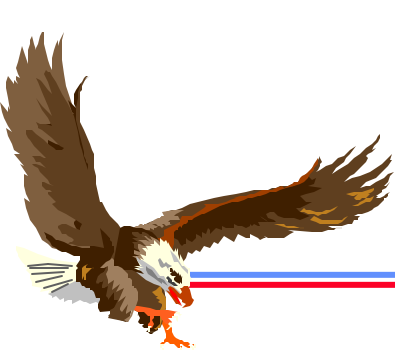
RFI LRU SHIPPED  
PER ASSET MANAGEMENT  
INSTRUCTIONS

# Baseline Overseas (Alaska)

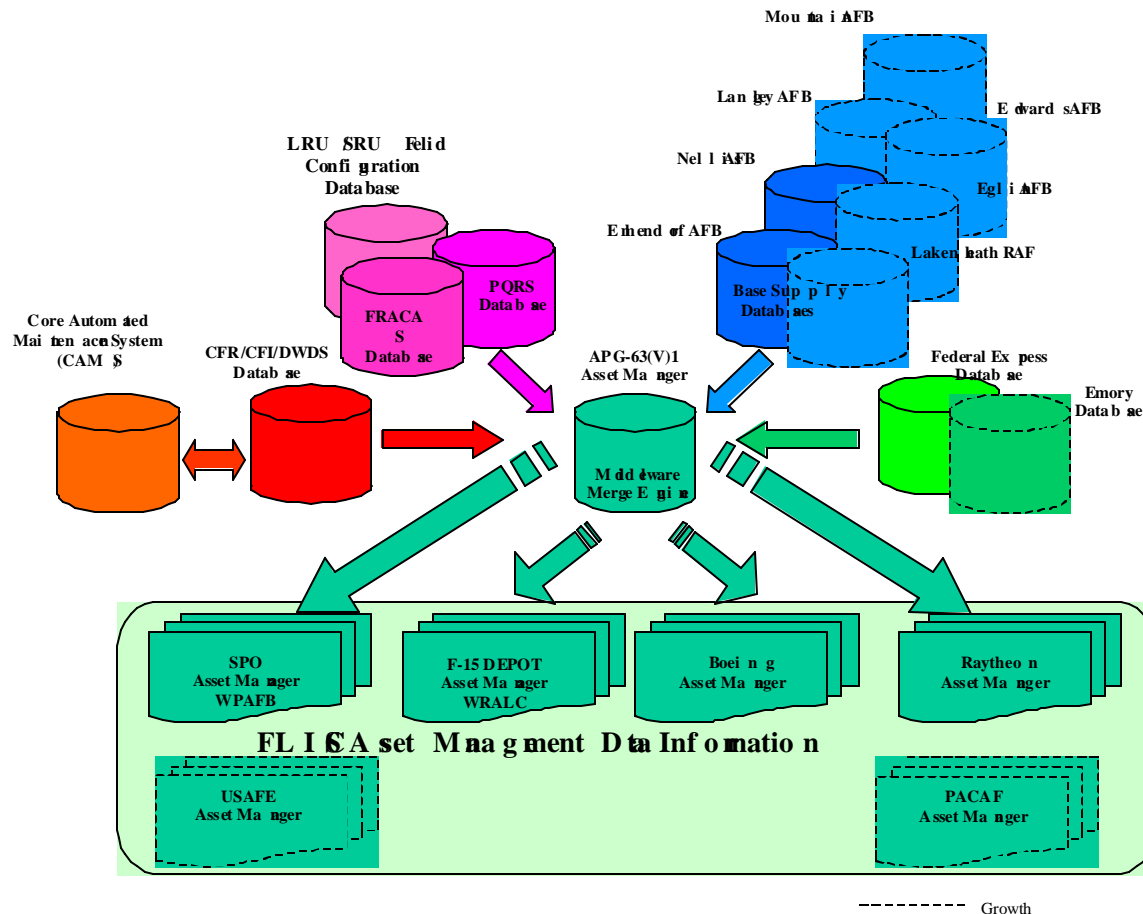
## FLICS LRU Movement







# Asset Management Data *USAF-Boeing-Raytheon IPT* Electronically Available Via Merge Engine

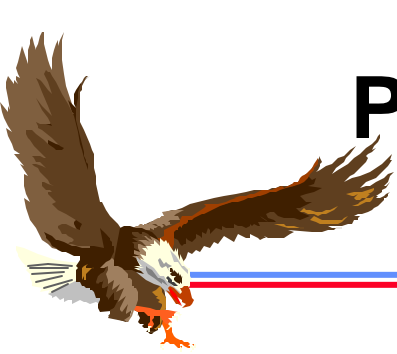




# Elements of FLICS

# **Proactive Parts Obsolescence Mitigation**

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**Manage Parts Obsolescence and Make  
lifetime buy of parts to support FLICS  
for those parts projected to become  
obsolete during 1999**

# Reporting Elements

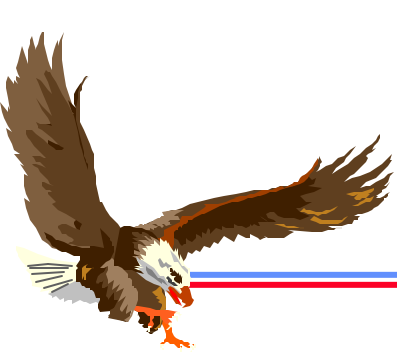
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- **Provide Cost Schedule and Status Reporting (C/SSR) as required By Subcontractor Data Requirements Listing (SDRL)**
- **Provide Costs Funds Status Report (CFSR) per SDRL**

# Asset Management

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- **Develop, implement and maintain an Asset Management and tracking system to track all FLICS repairs. System to provide status and be accessible by Raytheon, Boeing, and Air Force program personnel on a common Wide Area Network (WAN) server.**
- **Receive, enter into maintenance, track, provide status and communication with customer and shipper for all hardware returned for repair. Maintain inventory control over FLICS spare SRU and Piece Parts.**

# Repairs



- **Perform all Depot level LRU and SRU repairs under a two level maintenance concept**
- **LRU's are to be shipped to Raytheon, repaired, and returned to Air Force stock within 20 days overseas, 15 days CONUS from time of removal from aircraft**

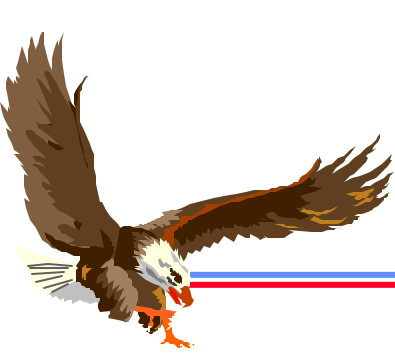


# FRACAS

**Generate FRACAS events as described in the 63(V)1 FRACAS plan for all field returns. This includes collecting, reviewing & analyzing data, generating & documenting corrective action, validating, and conducting the Failure Review Board (FRB) activities for LRU, SRU and Component.**

# Integrated Diagnostics

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- **Review each Failure / FRACAS Event**
- **Verify the Accuracy of Built-In-Test and Develop Necessary Changes**
- **Verify the Accuracy of CFR/CFI**
- **Identify Test Requirement Changes in Cooperation with the FRACAS activity**
- **Review Diagnostic Procedures utilized during Repair Failure Troubleshooting / Testing**
- **Review Design Changes and Identify Impacts to the Diagnostics**
- **Update the FMECA and Verticality Database**



# Summary

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- **Air Combat & Strike Systems believes FLICS provides substantial benefits to the Air Force and to Raytheon**
- **The F-15 Program Office, Andover, Forest, and other Raytheon organizations, are Committed to a Successful program**